

WHAT IS CLAIMED IS:

1. An electromagnetophoretic ink material comprising
an encapsulating structure;
a first aspect medium within said encapsulating structure, and
5 a plurality of second aspect elements within said encapsulating structure;
wherein each of said plurality of second aspect elements is configured to translationally
displace within said encapsulating structure under the influence of an applied gradient field, and
wherein each of said plurality of second aspect elements is further configured to
translationally displace within said encapsulating structure under the influence of an applied
10 vector field.

2. The electromagnetophoretic ink material of claim 1, further comprising
a plurality of third aspect elements within said encapsulating structure;
wherein each of said plurality of third aspect elements is configured to translationally
15 displace within said encapsulating structure under the influence of said applied vector field.

3. The electromagnetophoretic ink material of claim 2,
wherein each of said plurality of third aspect elements is further configured to
translationally displace within said encapsulating structure under the influence of said applied
20 gradient field.

4. The electromagnetophoretic ink material of claim 3, further comprising
a plurality of fourth aspect elements within said encapsulating structure;
wherein each of said plurality of fourth aspect elements is configured to translationally
displace within said encapsulating structure under the influence of said applied vector field.

5

5. The electromagnetophoretic ink material of claim 4,
wherein said each of said plurality of fourth aspect elements is further configured to
translationally displace within said encapsulating structure under the influence of said applied
gradient field.

10

6. The electromagnetophoretic ink material of claim 5,
wherein said each of said plurality of second aspect elements comprises
a second aspect inner layer, and
a second aspect outer layer, and

15

wherein said each of said plurality of third aspect elements comprises
a third aspect inner layer, and
a third aspect outer layer, and

20

wherein said each of said plurality of fourth aspect elements comprises
a fourth aspect inner layer, and
a fourth aspect outer layer.

7. The electromagnetophoretic ink material of claim 6,
wherein each of said plurality of second aspect elements has more volume than each of
said plurality of third aspect elements, and
wherein each of said plurality of third aspect elements has more volume than each of said
5 plurality of fourth aspect elements.

8. The electromagnetophoretic ink material of claim 6, wherein
said second aspect inner layer is selected from the group consisting of magnetite particles,
ferromagnetic particles, paramagnetic particles, and superparamagnetic particles;
10 said third aspect inner layer is selected from the group consisting of magnetite particles,
ferromagnetic particles, paramagnetic particles, and superparamagnetic particles; and
said fourth aspect inner layer is selected from the group consisting of magnetite particles,
ferromagnetic particles, paramagnetic particles, and superparamagnetic particles.

15 9. The electromagnetophoretic ink material of claim 8, wherein
said second aspect outer layer, said third aspect outer layer, and said fourth aspect outer
layer comprises a polymeric shell containing material, where said material is selected from the
group consisting of anionic, cationic, electron accepting, and electron donating groups.

10. The electromagnetophoretic ink material of claim 8, wherein
said second aspect outer layer comprises a first coating with a Zeta potential,
said third aspect outer layer comprises a second coating with a Zeta potential,
said fourth aspect outer layer comprises a third coating with a Zeta potential, and
5 said first aspect medium comprises a dielectric liquid,
wherein said first coating acquires an electrostatic charge when in contact with said
dielectric liquid,
wherein said second coating acquires an electrostatic charge when in contact with said
dielectric liquid, and
10 wherein said third coating acquires an electrostatic charge when in contact with said
dielectric liquid.

11. The electromagnetophoretic ink material of claim 1,
wherein said gradient field is a magnetic field.

12. The electromagnetophoretic ink material of claim 1,
wherein said vector field is an electric field.

13. A display system comprising

a plurality of electromagnetophoretic ink material of claim 1,

supporting material, and

an addressing system,

5 wherein said plurality of electromagnetophoretic ink material are bounded by said

supporting material, and

wherein said addressing system is configured to introduce a first vector field and a first
gradient field to a subset of said plurality of electromagnetophoretic ink material.

10 14. A method of addressing electromagnetophoretic ink material to present an aspect,

said method comprising

introducing a vector field to said electromagnetophoretic ink material in a first direction,

and

introducing a gradient field to said electromagnetophoretic ink material in said first

15 direction.

15. A method of addressing electromagnetophoretic ink material to present an aspect,
said method comprising
introducing a vector field to said electromagnetophoretic ink material in a first direction,
and
5 introducing a gradient field to said electromagnetophoretic ink material in a second
direction,
wherein said second direction is antiparallel to said first direction.

16. A method of addressing electromagnetophoretic ink material to present an aspect,
10 said method comprising
introducing a first vector field to said electromagnetophoretic ink material in a first
direction,
introducing a gradient field to said electromagnetophoretic ink material in said second
direction, and then
15 introducing a second vector field to said electromagnetophoretic ink material in said
second direction,
wherein said second direction is antiparallel to said first direction, and
wherein the magnitude of said second vector field is less than the magnitude of said first
vector field.

20 17. The method of claim 15,
wherein said vector field is an electric field.

18. The method of claim 15,
wherein said gradient field is a magnetic field.

19. The method of claim 16,
5 wherein said first vector field is an electric field, and
wherein said second vector field is an electric field.

20. The method of claim 16,
10 wherein said gradient field is a magnetic field.